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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,488	01/07/2005	Motoki Kato	275873US6PCT	6535

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

TOPGYAL, GELEK W

ART UNIT	PAPER NUMBER
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2481

NOTIFICATION DATE	DELIVERY MODE
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02/03/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/520,488	Applicant(s) KATO, MOTOKI	
	Examiner GELEK TOPGYAL	Art Unit 2481	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-11 and 14-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 14-18** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. The claim recites, *inter alia*, "A computer readable storage medium having a computer readable program stored thereon that is ..." and "A recording medium that records a multiplexed stream ... ". After close inspection, the Examiner respectfully notes that the disclosure, as a whole, does not specifically identify what may be included as a computer readable storage medium and what is not to be included as a computer readable storage medium.

5. An Examiner is obliged to give claims their broadest reasonable interpretation consistent with the specification during examination. The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. See MPEP 2111.01. When the broadest reasonable interpretation of a claim

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covers a signal, *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter.

6. Therefore, given the silence of the disclosure and the broadest reasonable interpretation, the computer readable storage medium of the claim may include transitory propagating signals. As a result, the claim pertains to non-statutory subject matter.

7. However, the Examiner respectfully submits a claim drawn to such a computer readable medium that covers both transitory and non-transitory embodiments may be amended to narrow the claim to cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by adding the limitation “non-transitory” to the claim. Such an amendment would typically not raise the issue of new matter, even when the specification is silent because the broadest reasonable interpretation relies on the ordinary and customary meaning that includes signals *per se*. For additional information, please see the Patents’ Official Gazette notice published February 23, 2010 (1351 OG 212).

Remarks

8. Method claims 10-11 and 22 are considered statutory under 35 U.S.C. 101 as said claims are considered to be inherently tied to a statutory category, specifically at least said steps of decoding, buffering and multiplexing are considered to require the use of a particular apparatus to perform said respective steps. Said steps are not considered able to be performed absent said particular apparatus.

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9. Device claims 1-9 and 19-21 are considered to be statutory because the claimed limitations, which include limitations regarding a audio buffer, video buffer, multiplexer, video decoder and audio decoder, can not be performed solely using software nor does the specification indicate such.

35 USC § 112, sixth paragraph

MPEP 2181 discloses that a claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph if it meets the following 3-prong analysis: (A) the claim limitations must use the phrase "means for" or "step for;" (B) the "means for" or "step for" must be modified by functional language; (C) the phrase "means for" or "step for" must not be modified by sufficient structure, material, or acts for achieving the specific function.

10. With regards to claims 1 and 19, it is noted that said claims have invoked 35 U.S.C. 112, sixth paragraph and meet the 3-prong analysis. Regarding said claims, it is noted that said "means for outputting" limitation is considered to read on the "Source Depacketizer 13" in Fig. 8 of the instant specification; "video decoding means for decoding" limitations are considered to read on "D1 within Decoder 20" in Fig. 8 of the instant specification; "audio decoding means for populating a database" limitations are considered to read on "Dn within Decoder 20" in Fig. 8 of the instant specification; "video encoding means for" limitations are considered to read on "a video encoding section" in page 46, lines 15-21; "multiplexing means for multiplexing" limitations are considered to read on "multiplexer" in page 46, lines 10-14.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 1-11 and 14-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Hurvig et al. (US 6,507,592) and further in view of Morris et al. (US 6,873,629).

Regarding claims 1, 9-10, 14, 16, 19 and 22, the prior admitted art teaches an information processing device that decodes a multiplexed stream which includes a data stream constituted by a plurality of source packets each having a transport packet and its arrival time stamp, and in which a second picture, which is the first picture of a second multiplexed stream, is connected to a first picture, which is the last picture of a first multiplexed stream so as to be reproduced seamlessly (page 3 of the specification teaches of two streams TS1 and TS2 that are multiplexes and are further desired to be reproduced seamlessly), comprising:

output means for outputting the source packets according to the arrival time stamp of the multiplexed stream (Fig. 1 teaches of a source depacketizer 113 capable of outputting the source packets according to the arrival time base of the source packet);

a video buffer for buffering video data included in the source packets; an audio buffer for buffering audio data included in the source packets (Fig. 1 teaches of buffering operations of TB1, MB1, EB1, TBn, Bn, TBsys and TBsys);

video decoding means for decoding the video data buffered in the video buffer; and audio decoding means for decoding the audio data buffered in the audio buffer (Fig. 1 teaches of decoders TB1, TBn and TBsys placed within overall decoder 120), wherein

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The admitted prior art teaches of outputting source packets between a time T1 and T2 (as agreed upon by the applicants in page 12 of remarks filed 4/21/2010), T1 being a time at which a last video packet of the first picture of the first multiplexed stream arrives at the video buffer and T2 being a time at which a last byte is input of remaining packets of the first multiplexed stream (AAPA: page 3, line 17 through page 10, line 2), however fails to teach that the outputting is according to the arrival time stamp.

Furthermore, the admitted prior art cites the need to have greater buffer capacity for the audio buffer. However, fails to particularly teach wherein: the audio buffer having a capacity capable of buffering the audio data corresponding to the time required for inputting the second picture to the video buffer, said capacity being less than an additional one second of buffer capacity required to accommodate a maximum bit rate when an arrival time stamp is ignored.

In an analogous art, Hurvig et al. teaches in col. 4, lines 12-31 of an outputting means wherein packets are output according to a time stamp indicative of an arrival time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to output the source packets according to the arrival time stamp as taught by Hurvig et al. into the admitted prior art because said incorporation allows for the benefit of the source packets to be output at predetermined timings (Hurvig: col. 4, lines 38-39).

The proposed combination of the admitted prior art and Hurvig cites the need to have greater buffer capacity for the audio buffer (AAPA: Page 5, lines 5-9). However, fails to particularly teach wherein: the audio buffer having a capacity capable of buffering the audio data corresponding to the time required for inputting the second picture to the video buffer, said capacity being less than an additional one second of buffer capacity required to accommodate a maximum bit rate when an arrival time stamp is ignored.

In an analogous art, Morris teaches in col. 9, lines 1-32 of enabling a system to set an audio buffer size to be 3,584 bytes. 3,584 bytes is equal to 28,672 bits, therefore, with an audio rate of 285,000 bits/s, the calculated audio buffer size of 3,584 bytes is a little above 100 millisecond. The audio buffer size in Morris is set so that changes between stream formats does not affect the MPEG-2 data during random accessing, editing and the like (col. 1, lines 27-41). Therefore, the audio buffer capacity is set to be less than one second required if arrival time stamps are ignored, since the proposed combination of AAPA and Hurvig teaches outputting source packets according to arrival time stamp.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Morris into the admitted prior art and Hurvig so that minimizes the delay and minimizes the amount of buffering needed for handling elementary streams (col. 13, lines 30-32 and col. 1, lines 65-67).

The proposed combination of the admitted prior art and Morris teaches the limitations as discussed above, however fails to particularly teach wherein the output

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means continues to output the source packets according to the arrival time stamp between a time T1 and a time T2, T1 being a time at which a last video packet of the first picture of the first multiplexed stream arrives at the video buffer and T2 being a time at which a last byte is input of remaining packets of the first multiplexed stream.

Regarding claims 2, 11, 15, 17 and 20, as discussed in claims 1, 10, 12, 14, 16, 19 and 22 above, the condition of the equations are met since the audio buffer of Morris et al. is able to buffer the audio data corresponding to the time required for inputting the next elementary stream to allow reduction of delay and reduction of buffering space. As an example, in Morris the equation can be satisfied by using the figures (Video rate, Audio rate, and Input picture size ($\text{video_rate}/30$)) in Tables 1 and (col. 9).

Regarding claims 3, 18 and 21, as discussed in claims 1, 10, 12, 14, 16, 19 and 22 above, since the audio buffer of Morris et al. is able to buffer the audio data corresponding to the time required for inputting the next elementary stream to allow reduction of delay and reduction of buffering space, the first set of data to arrive into its' respective buffer would be an I frame (See Morris Fig. 2: where I frame is first in a new sequence).

Claim 4 is rejected for the same reasons as discussed in claim 1 above, wherein the audio buffer size, given an audio rate of 285 Kbits/s, can accommodate at least 100 milliseconds worth of audio data.

Regarding claims 5 and 6, the admitted prior art recites the very same equations that set conditions for the multiplexed stream in pages 5-8 of the specification.

Regarding claims 7-8, the admitted prior art recites the claimed as discussed in claims 5-6 above and the claims ATC_Delta is met by Tpp value in equation (2) (AAPA: page 6).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GELEK TOPGYAL whose telephone number is (571)272-8891. The examiner can normally be reached on 8:30am -5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Gelek Topgyal/

Examiner, Art Unit 2481

/Peter-Anthony Pappas/

Supervisory Patent Examiner, Art Unit 2481